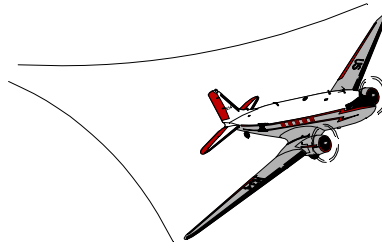


SPECIAL AIRWORTHINESS INFORMATION BULLETIN

Aircraft Certification Service
Washington, DC



U.S. Department
of Transportation

**Federal Aviation
Administration**

No. CE-02-07
November 9, 2001

We post SAIBs on the internet at "av-info.faa.gov"

This is information only. Recommendations are not mandatory.

Introduction

This Special Airworthiness Information Bulletin (SAIB) recommends safety information to **DG Flugzeugbau Model DG-500 series sailplane owners** on the following:

- Aircraft Lubrication
- Proper securing of the head rest in the rear cockpit
- Flight and Maintenance Manual Revision Pages

Safety Issue

DG Flugzeugbau has developed **Technical Note 348/15** that contains the detailed information for the airworthiness concerns listed above.

A copy of the DG Flugzeugbau Technical Note is included for your information with the respective Flight and Maintenance Manual pages. The FAA highly recommends that you comply with the intent of the Technical Note.

Recommendation

We highly recommend that you, an owner or operator of Flugzeugbau Models DG-500 series sailplanes, comply with the intent of Technical Note 348/15.

For Technical Information Concerning These Safety Issues Contact:

DG Flugzeugbau GmbH, Im Schollengarten 20, D 76646 Bruchsal, Federal Republic of Germany; telephone 49.7257.890; facsimile 49.7257.8922.

Further Information Contact

Oliver Dyer-Bennet, DG USA (United States Dealer), 5847 Sharp Road, Calistoga CA 94515; telephone (707) 942-5727; facsimile (707) 942-0885.

Mike Kiesov, Aerospace Engineer/Pilot, FAA, Small Airplane Directorate, 901 Locust, Room 301, Kansas City, Missouri, 64106; telephone: (816) 329-4144; facsimile: (816) 329-4090; email: mike.kiesov@faa.gov.

Subject : Greasing schedule / manual revision

Effectivity : DG-500 all models, all serial no.'s

Accomplishment : 31.03.2001

Reason : 1. The greasing schedule in the maintenance manual does not point out the bearings which are accessible via the access panels in both cockpits, so it must be assumed that on some gliders these bearings have never been serviced.
2. The time between lubrications can be increased to 1 year due to service experience.
3. The securing ropes of the head rest in the rear cockpit must prevent the head-rest from interfering with the rear control stick when the head rest is moved to its most forward position.
4. Some manual corrections.

Instructions : 1. Remove the access panels (2 in the front and 2 in the rear cockpit): You have to remove the height adjustable seat pan from the rear cockpit first. Clean and grease all accessible bearings (ball bearings and rod ends with universal bearings). Reinstall access panels and seat pan.
2. Check the securing ropes of the head rest in the rear cockpit for wear and correct length. The securing ropes must prevent the head rest from interfering with the rear control stick when the head rest is moved to its most forward position.
3. Exchange the following manual pages against new pages issued January 2001 marked with TN 348/15.

Model	Flight manual	Maintenance manual
DG-500 Trainer	0.1, 0.3, 0.4, 4.5, 7.7, 8.2	1, 2, 24
DG-500 Orion	0.1, 0.3, 0.4, 4.7, 7.6, 8.2	1, 2, 25
DG-500/20	0.1, 0.3, 0.4, 4.7, 7.7, 8.2	1, 2, 9, 17, 26
DG-500/22	0.1, 0.3, 0.4, 4.7, 7.7, 8.2	1, 2, 9, 26

Material : Multi-purpose greases for rolling element bearings
Nylon or Perlon cord 3mm
Manual pages see instruction 3

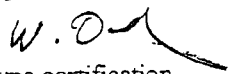
Weight and balance : /

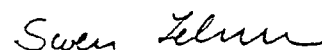
Remarks : All instructions may be executed by the owner. They have to be inspected and entered in the aircraft logs by a licensed inspector with the next annual inspection.

Bruchsal, date:
January 26. 2001

LBA – approved:

Author:
Dipl. Ing. Wilhelm Dirks


Type certification
inspector:
Dipl. Ing. Swen Lehner



The German original of this TN has been approved by the LBA under the date of Feb. 7, 2001 and is signed by Mr. Blume ~~Mr. Fendt~~. The translation into English has been done by best knowledge and judgement.

Flight manual DG-500 ELAN TRAINER

0.1 Record of revisions

Any revision of the present manual, except actual weighing data, must be recorded in the following table and in case of approved sections endorsed by the responsible airworthiness authority.

The new or amended text in the revised page will be indicated by a black vertical line in the right hand margin, and the revision no. and the date will be shown on the bottom left hand of the page.

Rev. No.	Affected pages / section	Description	Issue Date	LBA Approval Date	Inserted Date Signature
1	0.3,2.8, 2.9,4.8	TN 348/1T	Mar. 92	31.03.92	
2	0.4,7.2	TN 348/3T	Oct. 92	08.12.92	
3	0.3,1.2, 4.14	TN 348/4T	Oct. 94	26.10.94	
4	0.3,0.4, 1.3,4.1, 4.2,4.3, 5.2,5.5, 5.6,6.2, 6.4,6.7, 7.1,7.9, 7.10	TN 348/9	Oct. 97	26.11.97	
5	0.3, 0.4, 4.5, 7.7, 8.2	TN 348/15	Jan. 01	07.02.01	

Issued: see last item

0.1

Flight manual DG-500 ELAN TRAINER

0.2 List of effective pages

Section		page	issued	replaced	replaced
0		0.0	May 90		
		0.1	/		
		0.2	/		
		0.3	May 90	Oct. 94	Oct. 97
				Jan. 01	
		0.4	"	Oct. 92	Oct. 97
1				Jan. 01	
		0.5	"		
		1.1	"		
		1.2	Dec. 90		
		1.3	May 90	Oct. 97	
		1.4	"		
2		1.5	"		
	App.	2.1	"		
	"	2.2	"		
	"	2.3	"		
	"	2.4	"		
	"	2.5	"		
3		2.6	"		
		2.7	"		
		2.8	"	March 92	
		2.9	"	"	
	"	3.1	"		
	"	3.2	"		
4		3.3	"		
	"	4.1	"	Oct. 97	
	"	4.2	"	Oct. 97	
	"	4.3	"	Oct. 97	
	"	4.4	"		
	"	4.5	"	Jan. 01	
App.		4.6	"		
		4.7	"		
		4.8	"		
		4.9	"		
		4.10	"		
	App.	4.11	"	March 92	
	"	4.12	"		
	"	4.13	"		
	"	4.14	"	Oct. 94	
	"	4.15	May 90		

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0.3

Flight manual DG-500 ELAN TRAINER

0.2 List of effective pages (cont.)

<u>Section</u>		<u>page</u>	<u>issued</u>	<u>replaced</u>	<u>replaced</u>
5	"	5.1	May 90		
	"	5.2	"	Oct. 97	
	"	5.3	"		
	App.	5.4	"		
		5.5	"	Oct. 97	
		5.6	"	Oct. 97	
		5.7	"		
6		6.1	"		
		6.2	"	Oct. 97	
		6.3	"		
		6.4	"	Oct. 97	
		6.5	"		
		6.6	"		
		6.7	"	Oct. 97	
7		7.1	"	Oct. 97	
		7.2	"	Oct. 92	
		7.3	"		
		7.4	"		
		7.5	"		
		7.6	"		
		7.7	"	Jan. 01	
		7.8	"		
		7.9	"	Oct. 97	
		7.10	Oct. 97		
8		8.1	May 90		
		8.2	"	Jan. 01	
		8.3	"		
		8.4	"		
		8.5	"		
9		9.1	May 90		

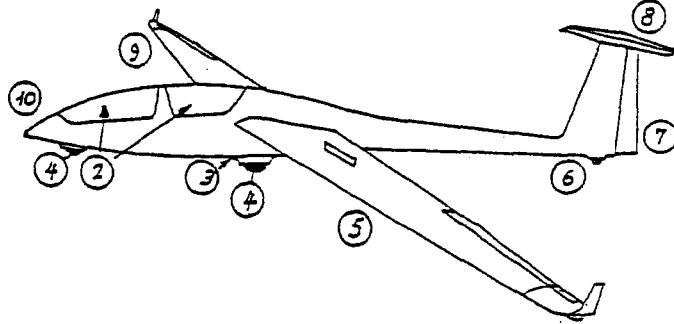
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0.4

Flight manual DG500 ELAN TRAINER

B Inspection after rigging Walk around the aircraft



1. All parts of the airframe
 - a) check for flaws such as bubbles, holes, bumps and cracks in the surface
 - b) check leading and trailing edges of the wings and control surfaces for cracks
2. Cockpit area
 - a) check the canopy locking mechanism
 - b) check the canopy emergency release see sect. 7.15 (not each day, but min. every 3 month)
 - c) check the main pin securing
check the securing ropes of the headrest in the rear cockpit for wear and function
 - d) check all controls for wear and function, incl. positive control check
 - e) check the tow release system for wear and function incl. cable release check
 - f) check for foreign objects
 - g) check the instrumentation and radio for wear and function
 - h) check the radio and other electrical equipment for function. If there is no electric power it must be assumed, that the battery is not in-stalled in the fin. **Flying is only allowed with the battery in the fin as otherwise the forward C.G. limit may be exceeded.**
 - i) check the brake fluid level
3. C.G. Tow hook
 - a) c heck the ring muzzle of the C.G. hook for wear and function
 - b) check for cleanliness and corrosion
4. Main landing gear and nose wheel
 - a) check the struts, the gear box, the gear doors and the tyre for wear; dirt in the struts can hinder the landing gear from locking over center the next time!

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App. 4.5

Flight manual DG-500 ELAN TRAINER

- b) Tailwheel: Tyre 200 x 50 2 PR
Diameter 200 mm (7.87 in)
Tyre pressure 4 bar (58 psi)
- c) Nosewheel: Tyre 260 x 85
Diameter 260 mm (10.2 in.)
Tyre pressure 2.5 bar (36 psi)

Option: See diagram 10 M.M.

The nose wheel is connected to the rudder control with springs.

7.5 Tow hooks

See diagram 5 M.M.

Safety release "Europa G 88" for winch launch installed near the C.G.

"nose release E 85" installed in the fuselage nose for aerotow.

Both hooks are operated by the same handle.

7.8 Seats and safety harness

The front seat is constructed as an integral inner shell.

The rear seat is height adjustable. The adjustment is by means of a strap similar to the shoulder harness.

As safety harness only symmetric 4-point harnesses fixed at the given fixing points are allowed.

7.9 Baggage compartment

Max. load 15 kg (33 lbs.).

Heavy pieces of baggage must to be secured to the floor.

Flight manual DG-500 ELAN TRAINER

8.1 Introduction

This section contains manufacturer's recommended procedures for proper ground handling and servicing of the sailplane. It also identifies certain inspection and maintenance requirements which must be followed if the sailplane is to retain that new-plane performance and dependability. It is wise to follow a planned schedule of lubrication and preventive maintenance based on climatic and flying conditions encountered.

8.2 Inspection period, maintenance

The "Instructions for continued airworthiness (maintenance manual) for the DG-500 ELAN TRAINER have to be followed.

- A Before each rigging all the connecting pins and bushes should be cleaned and greased. This includes the control connectors.
- B The contact surfaces of the canopies to the fuselage are to be rubbed with colourless floor-polish (canopy and fuselage side) to reduce grating noise in flight. Polish at the beginning of the flight season and then every month.
- C Once a year all the bearings and hinges should be cleaned and greased. See the greasing programme of the maintenance manual.
Each year the control surface displacements, adjustments and general condition must be checked. (See the maintenance manual).

8.3 Alterations or repairs

It is essential that the responsible airworthiness authority be contacted **prior to** any alterations on the airplane, to ensure that the airworthiness of the sailplane is not impaired. It is prohibited to execute the alteration without the approval of the airworthiness authority. The manufacturer will not be liable for the alteration or for damages resulting from changes in the characteristics of the aircraft due to alteration. So it is strongly recommended to execute no alternatives which are not approved by the aircraft manufacturer.

External loads such as external camera installations are to be regarded as alterations! Repair instructions can be found in the DG-500 ELAN TRAINER repair manual. No repairs should be carried out without referring to the manual.

Maintenance manual DG-500 ELAN TRAINER

Manual amendments

Rev. No.	Page	Description	Date	Signature
1	3,Diagr.9	TN 348/1T	March 92	
2	2,3,7,8,14,15,17,18,23,25,34	TN 348/3T	Oct. 92	
3	3,Diagr.7	AM 500/7/93	June 93	
4	2,3,17 Instruction for inspection, questionnaire, working instructions No.1 and No.2 for TN 348/4	TN 348/4T	Oct. 94	
5	2,4,15,18,21,25	TN 348/9	Oct. 97	
6	2, 24	TN 348/9	Jan. 01	

Issued: see last item

1

Instructions for continued airworthiness
Maintenance manual DG-500 ELAN TRAINER

		LBA	
Content		Page	approved
0	Airworthiness limitations	4	Oct. 97
1.	System description and adjustment data		issued
1.1	Wing and tailgroup setting data	5	July 90
1.2	Elevator control and trim system	6	" "
		7	Oct. 92
1.3	Rudder control	8	" "
1.4	Aileron control	9	July 90
		10	" "
1.5	Airbrake control and wheel brake	11	" "
1.6	Undercarriage	12	" "
		13	" "
1.7	Tow hooks	14	Oct. 92
1.8	Section not effective		
1.9	Mass balance and weights of control surface	15	Oct. 97
1.10	Fore and aft play of the wings	16	July 90
2.	Inspections		
2.1	Daily inspection	17	Oct. 94
2.2	Regular inspections	17	" "
2.3	Inspection after a heavy landing	18	Oct. 97
		19	July 90
		20	" "
2.4	Inspection procedure for increase of service time	21	Oct. 97
		22	July 90
3.	Maintenance		
3.1	General maintenance	23	Oct. 92
3.2	Maintenance of the airframe	24	Jan. 01
3.3	Greasing programme	24	" "
3.4	Damage of the airframe	25	Oct. 97
3.5	Hydraulic brake system	25	Oct. 97
4.	Detailed instructions for assembly and servicing work		
4.1	Section not effective		
4.2	Replacement of control cables	26	July 90
4.3	Adjustment and servicing of the control circuit	27	" "
4.4	Removal and installation of the undercarriage	28	" "
		29	" "
4.5	Filling and bleeding the hydraulic disc wheel brake	30	" "
4.6	Removal and installation of the under-Carriage (non retractable)	31	" "

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2

Maintenance manual DG-500 ELAN TRAINER

3. Maintenance

3.2 Maintenance of the airframe

The sailplane is service free except for the care of the surfaces (see sect. 3.1) and greasing and oiling of the control system and all pins (see sect. 3.3).

After a landing in a soft field, the undercarriage box and tow hook should be thoroughly cleaned.

3.3 Greasing and oiling

- A The contact surfaces of the canopies to the fuselage are to be rubbed with colourless floor-polish (canopy and fuselage side) to reduce grating noise in flight. Polish at the beginning of the flight season and then every month.
- B Once a year your DG-500 ELAN TRAINER should be carefully checked and all bearings, including control surface hinges, should be cleaned and greased if necessary. The various greasing points are as follows:
 - Aileron drive connections at the inboard aileron.
 - Airbrake drive connection - in airbrake box, also grease the brake paddle pivots.
 - Remove the access panels on the left hand cockpit walls and grease all the pushrod guides, but not those with Teflon linings, note see below.
 - Remove the baggage compartment floors and open the baggage compartment rear cover to grease all bearings.
 - Open the access panels (2 in the front and 2 in the rear cockpit). In the rear cockpit you have to remove the height adjustable seat pan first. Grease all accessible bearings (ball bearings and rod ends with universal bearings)
 - Remove the control column covers and grease all the bearings associated with the control columns.
 - Grease the rudder pedal adjustment slide.
 - Oil all hinge points on the undercarriage in the undercarriage box.
 - Clean and grease all control surfaces hinges.
 - Clean and grease the control hook ups for, ailerons, airbrakes and elevator control.
 - Clean and grease all pins and bushes of the wing and tailplane attachment.

Note: The greases we recommend are lithium based pressure-resistant anti-corrosion greases or lithium-soap greases (multi-purpose greases for rolling element bearings).

Note: The sliding guides of the following parts are made from Teflon and should not be greased:

Landing gear controlhandle 5FW39 on 5St68/2 and airbrake control handle 5St69 on 5St68/.

If these parts have been greased inadvertently you have to disassemble the parts and to clean them completely with Acetone.